

TCT-392**Application and Outcomes of a Hybrid Approach to Chronic Total Occlusion Percutaneous Coronary Intervention in a Contemporary Multicenter US Registry**

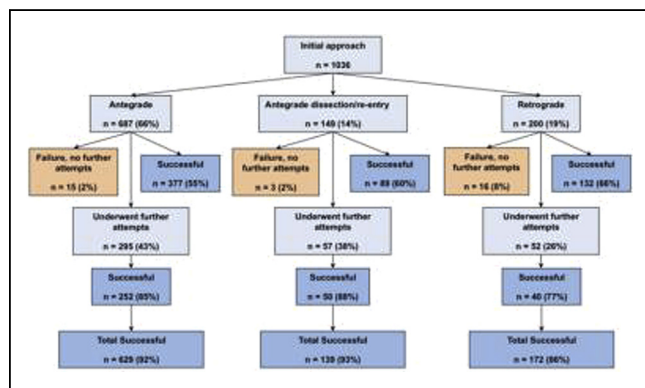
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BACKGROUND A hybrid approach to chronic total occlusion (CTO) percutaneous coronary intervention (PCI) prioritizing and combining all available crossing techniques was developed to optimize procedural efficacy, efficiency, and safety, but there is limited published data on its outcomes.

METHODS We examined the procedural techniques and outcomes of 1,036 consecutive CTO PCIs performed using a hybrid approach between 2012 and 2015 at 11 US centers.

RESULTS Mean age was 65±10 years and 86% of the patients were men, with a high prevalence of diabetes mellitus (43%) and prior coronary artery bypass graft surgery (34%). Most target CTOs were located in the right coronary artery (59%), followed by the left anterior descending artery (23%) and the circumflex (19%). Dual injection was used in 71%. Technical success was achieved in 91% and a major procedural complication occurred in 1.7% of cases. The final successful crossing technique was antegrade wire escalation in 46%, antegrade dissection/re-entry in 26%, and retrograde in 28%. The initial crossing strategy was successful in 58% of the lesions, whereas 39% required an additional approach. Overall, antegrade wire escalation was used in 71%, antegrade dissection/re-entry in 36%, and the retrograde approach in 42% of procedures. Median contrast volume, fluoroscopy time, and air kerma radiation dose were 260 (200-360) ml, 44 (27-72) min, and 3.4 (2.0-5.4) Gray, respectively.



CONCLUSIONS Application of a hybrid approach to CTO crossing resulted in high success and low complication rates across a varied group of operators and hospital practice structures, supporting its expanding use in CTO PCI.

CATEGORIES CORONARY: Angioplasty Overview and Outcomes

KEYWORDS Chronic total occlusion, Outcomes, PCI

TCT-393**The gender difference in coronary rotational atherectomy, a single-center retrospective analysis**

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BACKGROUND Rotational atherectomy facilitates percutaneous coronary intervention for complex lesions with severe calcification, even in the era of drug eluted stent. However, the female patients were considered with higher incidence of complications and worse outcomes. The study was to observe the gender difference in efficacy and safety for coronary rotational atherectomy in patients with severe stenosis and heavy calcific lesions.

METHODS Consecutive cases underwent rotational atherectomy from January 1, 2010 to December 31, 2014 at a single center (Fuwai hospital) were reviewed retrospectively. Clinical and coronary angiographic data were collected. Long-term outcomes were obtained by outpatient clinical follow-up or telephone interview.

RESULTS Total 283 cases (192 male 67.84%, 91 female 32.16%) were enrolled for evaluation. The average age was 66.77±8.63 and female had a higher age than male patients. Total procedural success rate was 95.8%, and despite the higher incidence of coronary dissection (8.80% vs. 3.10%, p=0.043), female had comparable severe complications, including no-reflow, perforation or burr entrapment. However, compared with male patients, female had higher incidence of in-hospital MACE (9.9% vs. 3.1%, p=0.024) and intervention related myocardial infarction (9.9% vs. 2.6%, p=0.015). The 6 and 12-month MACE were also significant higher in female patients (12.00% vs. 4.60%, p=0.035; 21.80% vs. 9.50%, p=0.022), mostly contributed by higher 6-month target lesion revascularization (12.00% vs. 4.60%, p=0.035). In-hospital mortality was 0.7% and 12-month accumulated mortality for outpatients was 1.1% with no gender difference. Multivariate regression analysis showed that female gender was not the independent risk factor for in-hospital MACE, but indeed, was for 6-month (RR 9.013, p=0.003) and 12-month accumulated MACE (RR 7.806, p=0.005).

CONCLUSIONS Rotational atherectomy is safe, feasible and facilitates stent implantation with high procedural success for both genders. However, female patients had worse outcome for short and long-term follow-up, therefore should be treated more carefully and observed more intensively, especially during the first 6 months after the procedure.

CATEGORIES CORONARY: Atherectomy (excluding thrombectomy)

TCT-394**Analysis of Percutaneous Coronary Intervention in Patients with Coronary Origin Anomalies**

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BACKGROUND Most of coronary origin anomalies (COAs) have no clinical significance, however may difficult to perform percutaneous coronary interventions (PCI) because of catheter placement or backup insufficient. The aim of this study, which has the largest patients cohorts reported from China up to now, was to identify the frequency and influence of COAs in adult patients undergoing PCI procedure.

METHODS We retrieved the 6861 patients underwent PCI from January 2004 to December 2013, and 352 cases with COAs were evaluated retrospectively.

RESULTS The frequency of COAs was 0.51%, and the three leading anomalies were right coronary artery (RCA) originating from the left sinus of Valsalva (LSV) (35.2%), RCA originating from anomalous location in the right sinus of Valsalva (RSV) (19.6%), and separate ostia of the left circumflex and anterior descending artery (17.0%). The percentage of patients requiring more than two catheters was significantly higher for those RCA originating from the LSV than average level (36.3% vs. 23.3%, P=0.032). Of all patients with COAs, 42.9% have three vessels disease, 4.9% left main involved, and 11.9% was chronic total occlusion. The total success rate was 90.6%, the RCA origin anomalies had lower success rate than left coronary artery